CLAIMS

What is claimed is:

1. A smart card system, comprising:

a terminal; and

a smart card connected to the terminal and configured to initiate communication with the terminal.

2. The smart card system of claim 1, further comprising a communications protocol that enables asynchronous communications between the smart card and the terminal.

3. The smart card system of claim 2, further comprising a communications protocol that enables logical asynchronous communication between the smart card and the terminal.

4. The smart card system of claim 1, wherein the smart card accesses terminal resources connected to the terminal.

5. The smart card system of claim 1, wherein the terminal is connected to a host computer.

6. The smart card system of claim 5, wherein the smart card accesses host computer resources connected to the host computer.

7. The smart card system of claim 1, wherein the terminal is connected to a network.

8. The smart card system of claim 7, wherein the smart card accesses network resources connected to the network.

9. The smart card system of claim 1, further comprising a means for establishing communication between the smart card and the terminal.

10. The smart card system of claim 9, wherein the means for establishing communication includes means for establishing full-duplex communication.

11. A smart card, comprising;

a communications circuit; and

a microcontroller connected to the communications circuit and configured to initiate communication with a terminal to which the smart card is connected.

12. The smart card of claim 1, further comprising a storage unit having a program stored therein.

13. The smart card of claim 12, wherein the microcontroller executes the program stored in the storage unit.

14. The smart card of claim 13, further comprising a memory unit, wherein the microcontroller temporarily stores the program in the memory unit.

15. The smart card of claim 11, wherein the terminal has terminal resources connected thereto and the microcontroller accesses the terminal resources.

16. The smart card of claim 11, wherein the terminal is connected to a host computer.

17. The smart card of claim 16, wherein the host computer has host computer resources connected thereto and the microcontroller accesses the host computer resources.

18. The smart card of claim 11, wherein the terminal is connected to a network.

19. The smart card of claim 18, wherein the network has network resources connected thereto and the microcontroller accesses the network resources.

20. A method of operating a smart card, comprising;

transmitting a command from the smart card to the terminal;

waiting for a response from the terminal; and

receiving the response from the terminal.

21. The method of claim 20, wherein the smart card initiates communication with the terminal.

22. The method of claim 20, further comprising a communications protocol that includes

a class field,

an instruction field,

a first parameter field,

a second parameter field, and

a data field.

23. The method of claim 22, wherein the communications protocol is ISO 7816 compatible.

24. The method of claim 20, wherein transmitting the command and receiving the response occur asynchronously.

25. The method of claim 20, wherein transmitting the command and receiving the response occur logically asynchronously.

26. The method of claim 20, wherein transmitting the command and receiving the response occur in full-duplex.

27. The method of claim 20, further comprising re-transmitting the command if no response is received from the terminal within a predefined time period.

28. The method of claim 20, further comprising requesting a list of available services from the terminal.

29. The method of claim 28, wherein the command is selected from the list of available services.

30. A method of debugging a smart card, comprising: executing a diagnostic portion of a program stored on the smart card; receiving a result from the smart card; and comparing the result to an expected result.

31. The method of claim 30, further comprising displaying the result on a display.